
Smith Economics Group, Ltd.

A Division of Corporate Financial Group

Economics / Finance / Litigation Support

*Stan V. Smith, Ph.D.
President*

April 16, 2009

Ms. Sylvia A. Goldsmith
Goldsmith Law Office
1991 Crocker Rd, Ste 600
West Lake, OH 44145

Re: Campbell

Dear Ms. Goldsmith:

You have asked me to calculate the value of certain losses subsequent to the credit damage to Brenda Campbell. These losses are: (1) the loss of credit expectancy; (2) the value of time spent by Mrs. Campbell; and (3) the reduction in value of life ("RVL"), also known as loss of enjoyment of life.

Brenda Campbell is a Caucasian, married female, who was born on July 7, 1956, and first experienced credit problem resulting from inaccurate information on her credit report on August 31, 2005 when she was denied a Discover credit card. Mrs. Campbell will be 53.4 years old at the estimated trial or settlement date of December 15, 2009, with a remaining life expectancy estimated at 29.8 years. This data is from the National Center for Health Statistics, United States Life Tables, 2004, Vol. 56, No. 9, National Vital Statistics Reports, 2007.

In order to perform this evaluation, I have reviewed the following materials: (1) Complaint for Violations of the Fair Credit Reporting Act; (2) Plaintiff's Answers to Experian Information Solutions, Inc.'s First Set of Interrogatories to Plaintiff Brenda Faith Campbell; (3) Plaintiff's Answers to Defendant Equifax Information Services LLC's First Set of Interrogatories to Plaintiff; (4) Plaintiff's Supplemental Amended Answers to Trans Union, LLC's First Set of Interrogatories to Plaintiff; (5) a credit report from Trans Union dated November 18, 2006; (6) a credit report from Equifax dated May 22, 2007; (7) a credit report from Experian dated October 7, 2007; (8) a letter from Discover Financial Services dated August 31, 2005; (9) information regarding out of pocket expenses; (10) an interview with Brenda Campbell on April 15, 2009; and (11) the case information form.

My methodology for estimating the losses, which is explained below, is generally based on past wage growth, interest rates, and consumer prices, as well as studies regarding the value of

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life. The effective net discount rate using statistically average wage growth rates and statistically average discount rates is 0.45 percent.

My estimate of the real wage growth rate is 1.15 percent per year. This growth rate is based on Business Sector, Hourly Compensation growth data from the Major Sector Productivity and Costs Index found at the U.S. Bureau of Labor Statistics website at www.bls.gov/data/home.htm, Series ID: PRS84006103, for the real increase in wages primarily for the last 20 years.

My estimate of the real discount rate is 1.60 percent per year. This discount rate is based on the rate of return on 91-day U.S. Treasury Bills published in the Economic Report of the President for the real return on T-Bills primarily for the last 20 years. This rate is also consistent with historical rates published by Ibbotson Associates, Chicago, in its continuously updated series Stocks, Bonds, Bills and Inflation published by Morningstar, Inc. This series, which acknowledges me as the Originator while a Principal and Managing Director at Ibbotson Associates, is generally regarded by academics in the field of finance as the most widely accepted source of statistics on the rates of return on investment securities. It is relied upon almost exclusively by academic and business economists, insurance companies, banks, institutional investors, CPA's, actuaries, benefit analysts, and economists in courts of law.

Estimates of real growth and discount rates are net of inflation based on the Consumer Price Index (CPI-U), published in monthly issues of the U.S. Bureau of Labor Statistics, CPI Detailed Report (Washington, D.C.: U.S. Government Printing Office) and available at the U.S. Bureau of Labor Statistics website at www.bls.gov/data/home.htm, Series ID: CUUR0000SA0. The rate of inflation for the past 20 years has been 2.82 percent.

I. LOSS OF CREDIT EXPECTANCY

Table 1 shows the loss of credit expectancy. Mrs. Campbell had excellent credit and was able to obtain credit at reasonable rates prior to this incident. As a result, she also had the ability to borrow sums beyond her current lines of credit. Mrs. Campbell was denied credit from Discover Financial Services in a letter dated August 31, 2005. In November 2008, Mrs. Campbell attempted to obtain an equity line to replace the roof on her home; however, her credit records were frozen and she had to obtain the equity line using her husband's credit. Mrs. Campbell states that she has not applied for any other credit because she knows that her credit is frozen and she will be denied. Mrs. Campbell states that she believes she will always have difficulties using her credit because the other Brenda Campbell now has her social security number, and she may be a victim of

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identity theft in the future. Additionally, because of the merged information, the other Brenda Campbell's creditors have tried to have her wages and her bank account garnished. She states that she will always have to have joint accounts and property ownership with her husband because otherwise she believes her money and property will be garnished or repossessed by the other Brenda Campbell's creditors.

I estimate Mrs. Campbell's additional credit capacity to be \$10,000 starting on August 31, 2005 and \$100,000 starting in November 2008. This standby expectancy has a value similar to the value of a safety net for a trapeze artist, or the value of a term life policy for a person who continues to live a healthy life - the value does not depend upon the actual use. The loss of expectancy is estimated by the costs of using this credit under normal circumstances, approximately 12 percent per year, and the costs of using this credit, if available, at the highest rates charged to those who are viewed as high credit risks, approximately 25 percent. This difference is 13 percent per year and is an estimate of the value of the expectancy loss. Although Mrs. Campbell's credit report may be fixed at the conclusion of the lawsuit, she will continue to be at risk for identity theft from the other Brenda Campbell and her credit file may again be merged with the other Brenda Campbell; however, I have not included these potential credit damages.

Based on these assumptions, the loss of credit expectancy through December 2009 is \$18,419 ▶ Table 1. This figure does not include any future loss of credit expectancy that may arise from continued theft of her identity or reporting of inaccurate information.

II. VALUE OF TIME SPENT ON SITUATION

Tables 2 through 4 show the value of Mrs. Campbell's time spent trying to resolve this situation. Mrs. Campbell states that since November 18, 2006 when she received her credit reports showing erroneous information, she has spent a significant amount of time trying to resolve the situation. She states that she spent time researching how proceed in correcting the information on her credit reports. She states that she sent multiple letters to all three credit repositories disputing the erroneous information and requesting that they investigate the account. She sent the letters certified mail, so it also took her time to go to the post office and mail the letters. In May 2007, she sent a debt validation request to Midland Credit Management so that she could obtain information regarding the account that was "verified" by the credit bureaus as being hers. As a result, she received an order garnishing her wages, and she spent the entire weekend researching the situation, writing letters, making phone calls, and trying figure out how to resolve it. She contacted

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the judge as well as attorneys on the case to try to explain that it was not her, and she was only able to resolve it after hiring her own attorney. After she hired an attorney to assist her in resolving the issue, she has had to spend time meeting with her attorneys, filling out documents for court, finding records and faxing them to her attorney, and she continued to do research for her attorney. Additionally, she has had to monitor her credit report and the legal proceedings against the Brenda Campbell with whom her credit information has been merged. She has had to dispute new accounts opened by the other Brenda Campbell and respond to threatening calls to her family members indicating that her wages would be garnished if she did not respond.

Mrs. Campbell estimates that she spent approximately 20 hours per week working on her case from November 18, 2006 through February 2008, when she hired her current attorney. She states that for six months from approximately March 2008 through August 2008 she took a break from working on her case and monitoring her credit, and in approximately September 2008 she resumed monitoring her credit and working on her case. She estimates that she currently spends approximately 10 hours per month monitoring her credit and working on her case. She states that even when the lawsuit is over, she expects that she will need to continue to closely monitor her credit because the situation has resulted in the other Brenda Campbell obtaining her social security number and she worries about future instances of identity theft. She anticipates having to dispute future accounts obtained by the other Brenda Campbell even after the current lawsuit ends.

Mrs. Campbell's time spent on the situation is illustrated at 20 hours per week from November 18, 2006 through February 2008, zero hours from March 2008 through August 2008, 10 hours per month from September 2008 through December 2009, and 5 hours per month from 2010 and thereafter. The hourly value of the time Mrs. Campbell's time spent on this situation is valued at the average of the mean hourly rate of bookkeeping, auditing and accounting clerks and the mean hourly rate of executive secretaries and administrative assistants, which is \$14.45 per hour in year 2007 dollars in the Jefferson City, MO Metropolitan area. This wage data is based on information from the U.S. Bureau of Labor Statistics, Occupational Employment Statistics, May 2007 Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Statistics found at www.bls.gov/oes. The value of Mrs. Campbell's time is illustrated to grow at national average wage growth.

Based on these assumptions, the value of time spent by Mrs. Campbell through her life expectancy is \$47,648 ▶ Table 4.

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III. REDUCTION IN VALUE OF LIFE

Economists have long agreed that life is valued at more than the lost earnings capacity. My estimate of the value of life is based on many economic studies on what we, as a contemporary society, actually pay to preserve the ability to lead a normal life. The studies examine incremental pay for risky occupations as well as a multitude of data regarding expenditure for life savings by individuals, industry, and state and federal agencies.

My estimate of the value of life is consistent with estimates published in other studies that examine and review the broad spectrum of economic literature on the value of life. Among these is "The Plausible Range for the Value of Life," Journal of Forensic Economics, Vol. 3, No. 3, Fall 1990, pp. 17-39, by T. R. Miller. This study reviews 67 different estimates of the value of life published by economists in peer-reviewed academic journals. The Miller results, in most instances, show the value of life to range from approximately \$1.6 million to \$2.9 million dollars in year 1988 after-tax dollars, with a mean of approximately \$2.2 million dollars. In "The Value of Life: Estimates with Risks by Occupation and Industry," Economic Inquiry, Vol. 42, No. 1, May 2003, pp. 29-48, Professor W. K. Viscusi estimates the value of life to be approximately \$4.7 million dollars in year 2000 dollars. An early seminal paper on the value of life was written by Richard Thaler and Sherwin Rosen, "The Value of Saving a Life: Evidence from the Labor Market." in N.E. Terlickyj (ed.), Household Production and Consumption. New York: Columbia University Press, 1975, pp. 265-300. The Meta-Analyses Appendix to this report reviews additional literature suggesting a value of life of approximately \$5.4 million in year 2008 dollars.

Because it is generally accepted by economists, the methodology used to estimate the value of life has been found to meet Daubert standards, as well as Frye standards and the Rules of Evidence in various states, by Federal Circuit and Appellate courts, as well as state trial, supreme and appellate courts nationwide. Testimony based on this peer-reviewed methodology has been admitted in over half the states in over 175 trials nationwide. Proof of general acceptance and other standards is found in a discussion of the extensive references to the scientific economic peer-reviewed literature on the value of life listed in the **Value of Life Appendix** to this report.

The underlying, academic, peer-reviewed studies fall into two general groups: (1) consumer behavior and purchases of safety devices; (2) wage risk premiums to workers; in addition, there is a third group of studies consisting of cost-benefit analyses of regulations. For example, one consumer safety study analyzes the costs of smoke detectors and the lifesaving reduction associated with them. One wage premium study examines the differential

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rates of pay for dangerous occupations with a risk of death on the job. Just as workers receive shift premiums for undesirable work hours, workers also receive a higher rate of pay to accept a increased risk of death on the job. A study of government regulation examines the lifesaving resulting from the installation of smoke stack scrubbers at high-sulphur, coal-burning power plants. As a hypothetical example of the methodology, assume that a safety device costs \$460 and results in lowering a person's risk of premature death by one chance in 5,000. The cost per life saved is obtained by dividing \$460 by the one in 5,000 probability, yielding \$2,300,000.

Mrs. Campbell states that since she first pulled her credit report in November 2006, her life has been consumed by the situation. She states that trying to fix her credit report consumed all of her free time, and she stopped doing many activities. She states that she used to enjoy country dancing with her husband and engaging in social activities; however, she and her husband only went dancing twice last year and she has little desire to be in social settings anymore. Her husband is an introvert, and he has started to tell her that they need to go out more because they don't do much anymore. At times she feels like she can't go out because she needs to be home checking on things related to the case. Additionally, she never knows where issues regarding the case will arise. For instance, she went to a casino and gave her name there, and they asked her whether she lived in Willard, MO, which is where the other Brenda Campbell lives. Even when she does go into social settings, the case often consumes her conversations. Her family and friends ask about it, or credit cards come up in conversations with friends, and she feels the need to tell her story to warn people about what can happen if there is inaccurate information on your credit.

Mrs. Campbell states that it has been at times humiliating to have to explain the situation to people. Prior to her credit being frozen, she had to explain and prove to potentially creditors that the information on her credit report was not hers. She has had to try to explain to debt collectors that they have the wrong person, and they never believe her. Even when she explains to them that she has been a victim of identity theft, they do not care. For example, one time a debt collector called for her and her husband answered, and he tried to explain to the situation to the guy. Her husband explained that she had been a victim of identity theft and that he could speak with her attorney about it, and Mrs. Campbell states that the guy responded that he doesn't talk to attorneys, he just talks to lowlifes who don't pay their bills. She states that receiving this kind of treatment and hearing repeatedly that people do not believe her has impacted her confidence. Despite everything she has done to resolve the situation, her good reputation continues to be tarnished. It is frustrating and unfair that the

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opportunities available to people with good credit are not afforded to her because of something that is not her fault and that she cannot control.

When Mrs. Campbell received the garnishment order for her wages in May 2007, she had to tell her boss and feared losing her job because of the situation. She is a public employee and she worries that the information will make it into the hands of people at work, so she has told her direct reports and peers about her situation in order to prevent potential issues that may arise. She worries that if something happened to her while driving through Greene County that she will be mistaken for the other Brenda Campbell, who has had several outstanding arrest warrants. She is eligible to retire from her current job; however, since most employers do credit checks, she does not believe she could obtain another job. Mrs. Campbell states that she planned to retire from public service and move closer to her family and obtain a less stressful job there. Now she questions whether she will ever be able to obtain a new job or purchase a new home.

Mrs. Campbell states that she worries about the future and believes this will continue to impact her the rest of her life. Since the other Brenda Campbell now has her social security number, she will always be at risk of identity theft. She has read many credit damage cases where as soon as the case resolved, a new issue arose and the process had to start all over again, so she worries that even if the current inaccuracies are corrected on her credit report that they will appear again in the future. She worries that her credit report will again be merged with the other Brenda Campbell or that new inaccurate information will appear on her account.

Mrs. Campbell states that since her life was consumed by the situation from November 2006 through February 2008 and she did not participate in her normal social activities, her quality of life was very low during this time. Although starting in March 2008 she was not working as much on her case, it still consumed her thoughts and she lost her motivation to resume her prior hobbies. She estimates her quality of life is around 50 percent right now.

Tables 5 through 10 are based on several factors:

- (1) An assumed impairment rating by the trier-of-fact of a 75 percent reduction in the ability to lead a normal life from November 18, 2006 through February 2008, 50 percent from March 2008 through December 2009, and 25 percent to 50 percent from 2010 and thereafter. The diminished capacity to lead a normal life reflects the impact on career, social and leisure activities, the activities of daily living, and the internal emotional state, as discussed in Berla, Edward P., Michael L.

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- Brookshire and Stan V. Smith, "Hedonic Damages and Personal Injury: A Conceptual Approach," Journal of Forensic Economics, Vol 3, No. 1, Winter 1990, pp. 1-8;
- (2) The central tendency of the range of the economic studies cited above which I estimate to be approximately \$4.1 million in year 2009 dollars; and
 - (3) A life expectancy of 83.2 years.

Tables 5 through 7 are based on the lower estimated impairment rating; Tables 8 through 10 are based on the upper estimated impairment rating. Based on these values and life expectancy, my opinion of the reduction in the value of life is estimated at \$987,960 ▶ Table 7 to \$1,748,533 ▶ Table 10, averaging \$1,368,247.

IV. FEES

My fee for this report is \$4,361.50. My hourly rate for deposition and trial testimony is \$315 per hour.

A trier-of-fact may weigh other factors to determine if these estimated losses for Brenda Campbell should be adjusted because of special qualities or circumstances that economists do not as yet have a methodology for analysis.

In each set of tables, the estimated losses are calculated from August 31, 2005 through an assumed trial or settlement date of December 15, 2009, and from that date thereafter. The last table in each set accumulates the past and future estimated losses. These estimates are provided as an aid, tool and guide for the trier-of-fact.

All opinions expressed in this report are clearly labeled as such. They are rendered in accordance with generally accepted standards within the field of economics and are expressed to a reasonable degree of economic certainty. Estimates, assumptions, illustrations and the use of benchmarks, which are not opinions, but which can be viewed as hypothetical in nature, are also clearly disclosed and identified herein.

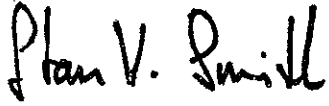
In my opinion, it is reasonable for experts in the field of economics and finance to rely on the materials and information I reviewed in this case for the formulation of my substantive opinions herein.

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If additional information is provided to me, which could alter my opinions, I may incorporate any such information into an update, revision, addendum, or supplement of the opinions expressed in this report.

If you have any questions, please do not hesitate to call me.

Sincerely,

A handwritten signature in black ink that reads "Stan V. Smith". The signature is written in a cursive, slightly slanted style.

Stan V. Smith, Ph.D.
President

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APPENDIX: VALUE OF LIFE

The economic methodology for the valuation of life has been found to meet the Daubert and Frye standards by many courts, along with the Rules of Evidence in many states nationwide. My testimony has been accepted in approximately 175 state and federal jurisdictions nationwide in over half the states. Testimony has been accepted by Federal circuit and Appellate courts as well as in state trial, supreme, and appellate Courts. The Daubert standard sets forth four criteria:

1. Testing of the theory and science
2. Peer Review
3. Known or potential rate of error
4. Generally accepted.

Testing of the theory and science has been accomplished over the past four decades, since the 1960s. Dozens of economists of high renown have published over a hundred articles in high quality, peer-reviewed economic journals measuring the value of life. The value of life theories are perhaps among the most well-tested in the field of economics, as evidenced by the enormous body of economic scientific literature that has been published in the field and is discussed below.

Peer Review of the concepts and methodology have been extraordinarily extensive. One excellent review of this extensive, peer-reviewed literature can be found in "The Value of Risks to Life and Health," W. K. Viscusi, Journal of Economic Literature, Vol. 31, December 1993, pp. 1912-1946. A second is "The Value of a Statistical Life: A Critical Review of Market Estimates throughout the World." W. K. Viscusi and J. E. Aldy, Journal of Risk and Uncertainty, Vol. 27, No. 1, November 2002, pp. 5-76. Additional theoretical and empirical work by Viscusi, a leading researcher in the field, can be found in: "The Value of Life", W. K. Viscusi, John M. Olin Center for Law, Economics, and Business, Harvard Law School, Discussion Paper No. 517, June 2005. An additional peer-reviewed article discusses the application to forensic economics: "The Plausible Range for the Value of Life," T. R. Miller, Journal of Forensic Economics, Vol. 3, No. 3, Fall 1990, pp. 17-39, which discusses the many dozens of articles published in other peer-reviewed economic journals on this topic. This concept is discussed in detail in "Willingness to Pay Comes of Age: Will the System Survive?" T. R. Miller, Northwestern University Law Review, Summer 1989, pp. 876-907, and "Hedonic Damages in Personal Injury and Wrongful Death Litigation," by S. V. Smith in Litigation Economics, pp. 39-59.

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Kenneth Arrow, a Nobel Laureate in economics, discusses this method for valuing life in "Invaluable Goods," Journal of Economic Literature, Vol. 35, No. 2, 1997, pp. 759. See the Meta-Analyses Appendix for an additional review of the literature.

The known or potential rate of error is well researched. All of these articles discuss the known or potential rate of error, well within the acceptable standard in the field of economics, generally using a 95% confidence rate for the statistical testing and acceptance of results. There are few areas in the field of economics where the known or potential rate of error has been as well-accepted and subject to more extensive investigation.

General Acceptance of the concepts and methodology on the value of life in the field of economics is extensive. This methodology is and has been generally accepted in the field of economics for many years. Indeed, according to the prestigious and highly-regarded research institute, The Rand Corporation, by 1988, the peer-reviewed scientific methods for estimating the value of life were well-accepted: "Most economists would agree that the willingness-to-pay methodology is the most conceptually appropriate criterion for establishing the value of life," Computing Economic loss in Cases of Wrongful Death, King and Smith, Rand Institute for Civil Justice, R-3549-ICJ, 1988.

While first discussed in cutting edge, peer-reviewed economic journals, additional proof of general acceptance is now indicated by the fact that this methodology is now taught in standard economics courses at the undergraduate and graduate level throughout hundreds of colleges and universities nationwide as well as the fact that it is taught and discussed in widely-accepted textbooks in the field of law and economics: Economics, Sixth Edition, David C. Colander, McGraw-Hill Irwin, Boston, 2006, pp. 463-465; this introductory economics textbook is the third most widely used textbook in college courses nationwide. Hamermesh and Rees's The Economics of Work and Pay, Harper-Collins, 1993, Chapter 13, a standard advanced textbook in labor economics, also discusses the methodology for valuing life. Other textbooks discuss this topic as well. Richard Posner, a Justice and former Chief Justice of the U.S. Court of Appeals for the highly regarded 7th Circuit and Senior Lecturer at the University of Chicago Law School, one of most prolific legal writers in America, details the Value of Life approach in his widely used textbooks: Economic Analysis of Law, 1986, Little Brown & Co., pp. 182-185 and Tort Law, 1982, Little Brown & Co., pp. 120-126.

As further evidence of general acceptance in the field, many surveys published in the field of forensic economics show that hundreds of economics nationwide are now familiar with this methodology and are available to prepare (and critique) forensic

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economic value of life estimates. Indeed, many economists who indicate they will prepare such analysis for plaintiffs also are willing to critique such analysis for defendants, as I have often done. That an economist is willing to critique a report does not indicate that he or she is opposed to the concept or the methodology, but merely available to assure that the plaintiff economist has employed proper techniques. The fact that there are economists who indicate they do not prepare estimates of value of life is again no indication that they oppose the methodology: many claim they are not familiar with the literature and untrained in this area. While some CPAs and others without a degree in economics have opposed these methods, such professionals do not have the requisite academic training and are unqualified to make such judgements. However, as in any field of economics, this area is not without controversy and there are some qualified and trained economists who dispute certain aspects of the methodology. General acceptance does not mean universal acceptance.

Additional evidence of general acceptance in the field is found in the teaching of the concepts regarding the value of life. Forensic Economics is now taught as a special field in a number of institutions nationwide. I taught what is believed to be the first course ever presented in the field of Forensic Economics at DePaul University in Spring, 1990. My own book, Economic/Hedonic Damages, Anderson, 1990, and supplemental updates thereto, co-authored with Dr. Michael Brookshire, a Professor of Economics in West Virginia, has been used as a textbook in at least 5 colleges and universities nationwide in such courses in economics, and has a thorough discussion of the methodology. Toppino et. al., in "Forensic Economics in the Classroom," published in The Earnings Analyst, Journal of the American Rehabilitation Economics Association, Vol. 4, 2001, pp. 53-86, indicate that hedonic damages is one of 15 major topic areas taught in such courses.

Lastly, general acceptance is found by examining publications in the primary journal in the field of Forensic Economics, which is the peer-reviewed Journal of Forensic Economics, where there have been published many articles on the value of life. Some are cited above. Others include: "The Econometric Basis for Estimates of the Value of Life," W. K. Viscusi, Vol 3, No. 3, Fall 1990, pp. 61-70; "Hedonic Damages in the Courtroom Setting." S. V. Smith, Vol. 3, No. 3, Fall 1990, pp. 41-49; "Issues Affecting the Calculated Value of Life," E. P. Berla, M. L. Brookshire and S. V. Smith, Vol 3, No. 1, 1990, pp. 1-8; "Hedonic Damages and Personal Injury: A Conceptual Approach." G. R. Albrecht, Vol. 5., No. 2, Spring/Summer 1992, pp. 97-104; "The Application of the Hedonic Damages Concept to Wrongful and Personal Injury Litigation." G. R. Albrecht, Vol. 7, No. 2, Spring/Summer 1994, pp. 143-150; and also "A Review of the Monte Carlo Evidence Concerning Hedonic Value of Life Estimates," R. F. Gilbert, Vol. 8, No. 2, Spring/Summer 1995, pp. 125-130.

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It is important to note that this methodology is endorsed and employed by the U. S. Government as the standard and recommended approach for use by all U. S. Agencies in valuing life for policy purposes, as mandated in current and past Presidential Executive Orders in effect since 1972, and as discussed in "Report to Congress on the Costs and Benefits of Federal Regulations," Office of Management and Budget, 1998, and "Economic Analysis of Federal Regulations Under Executive Order 12866," Executive Office of the President, Office of Management and Budget, pp. 1-37, and "Report to the President on Executive Order No. 12866," Regulatory Planning and Review, May 1, 1994, Office of Information and Regulatory Affairs, Office of Management and Budget. Prior presidents signed similar orders as discussed in "Federal Agency Valuations of Human life," Administrative Conference of the United States, Report for Recommendation 88-7, December 1988, pp. 368-408. 926

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APPENDIX: META-ANALYSES AND VALUE OF LIFE RESULTS SINCE 2000

Below I list the principal systematic reviews (meta-analyses), since the year 2000, of the value of life literature, and the values of a statistical life that they recommend. In statistics, a meta-analysis combines the results of several studies that address a set of related research hypotheses. Meta-analysis increase the statistical power of studies by analyzing a group of studies and provide a more powerful and accurate data analysis than would result from analyzing each study alone. Based on those reviews, the Summary Table suggests a best estimate. The following table summarizes the studies and their findings.

These statistically based studies place the value between \$4.4 and \$7.5 million, with \$5.9 million representing a conservative yet credible estimate of the average (and range midpoint) of the values of a statistical life published in the studies in year 2005 dollars. Net of human capital, a credible net value of life based on all these literature reviews to be \$4.8 million in year 2005 dollars, or \$5.4 million in year 2008 dollars.

The actual value that I use, \$4.1 million is approximately 24 percent lower than a conservative average estimate based on the credible meta-analyses. This value was originally based on a review conducted in the late 1980s, averaging the results published by that time. I have increased that late 1980s value only by inflation over time, despite the fact a review of literature over the years since that time has put obvious upward pressure on the figure that I use.

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Summary Table: Mean and range of value of statistical life estimates (in 2005 dollars) from the best meta-analyses and systematic reviews and characteristics of those reviews.

Study	Formal Meta-Analysis?	Number of Values	Best Estimate (2005 Dollars)	Range	Context
Miller 2000	Yes	68 estimates	\$5.1M	\$4.5-\$6.2M	US estimate from all
Mrozek & Taylor 2002	Yes	203 estimates, from 33 studies	\$4.4M	+ or - 35%	Labor market
Viscusi & Aldy 2003	Yes	49 estimates (reviewed more than 60 studies, but some lacked desired variables)	\$6.5M	\$5.1-\$9.6M	Labor market, US estimate from all
Kochi et al. 2006	Yes	234 estimates from 40 studies	\$6.0M	+ or - 44%	Labor market, survey
Bellavance 2006	Yes	37 estimates from 34 studies (rejected 15 others that lacked desired data or were flawed)	\$7.0M	+ or - 19%	Labor market

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Miller (2000) started from the Miller 1989 JFE estimates and used statistical methods to adjust for differences between studies. It also added newer studies, primarily ones outside the United States. The authors specified the most appropriate study approach a priori, which allowed calculation of a best estimate from the statistical regression.

Mrozek and Taylor (2002) searched intensively for studies of the value of life implied by wages paid for risky jobs. They coded all values from each study rather than a most appropriate estimate. A statistical analysis identified what factors accounted for the differences in values between studies. The authors specified the most appropriate study approach a priori, which allowed calculation of a best estimate from the statistical regression.

Viscusi and Aldy (2003) focused on values from labor market studies that they considered of high quality and that provided data on risk levels and other important explanatory variables. They used statistical methods to account for variations between studies and derive a best estimate.

Kochi et al. (2006) searched intensively for studies of the value of life implied by wages and coded all values from each study rather than a most appropriate estimate. They did not filter study quality carefully. The best estimate was derived by statistical methods based on the distribution of the values within and across studies.

Bellavance et al. (2006) focused on values from labor market studies that they considered of high quality and that provided data on risk levels and other important explanatory variables. They used statistical methods to account for variations between studies and derive a best estimate. 926

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SUMMARY OF LOSSES FOR BRENDA CAMPBELL

TABLE *****	DESCRIPTION ***** <u>LOSS OF CREDIT EXPECTANCY</u>	ESTIMATE *****
1	LOSS OF CREDIT EXPECTANCY	\$ 18,419
	----- <u>VALUE OF TIME SPENT</u>	
4	VALUE OF TIME SPENT	\$ 47,648
	----- <u>LOSS OF ENJOYMENT OF LIFE</u>	
	REDUCTION IN VALUE OF LIFE	
7	Lower impairment rating	\$ 987,960
10	Upper impairment rating	\$1,748,533

The information on this Summary of Losses is intended to summarize losses under certain given assumptions. Please refer to the report and the tables for all the opinions.

Table 1

LOSS OF PAST CREDIT EXPECTANCY
2005 - 2009

YEAR	AGE	CREDIT EXPECTANCY	CUMULATE
****	***	*****	*****
2005	49	\$435	\$435
2006	50	1,300	1,735
2007	51	1,300	3,035
2008	52	2,384	5,419
2009	53	13,000	\$18,419
CAMPBELL		\$18,419	

Table 2

VALUE OF PAST TIME SPENT ON SITUATION
2006 - 2009

YEAR	AGE	VALUE OF TIME	CUMULATE
****	***	*****	*****
2006	50	\$1,708	\$1,708
2007	51	15,028	16,736
2008	52	3,110	19,846
2009	53	1,781	\$21,627
CAMPBELL		\$21,627	

Table 3

PRESENT VALUE OF FUTURE TIME ON SITUATION
2009 - 2039

YEAR	AGE	VALUE OF TIME	DISCOUNT FACTOR	PRESENT VALUE	CUMULATE
****	***	*****	*****	*****	*****
2009	53	\$87	0.99926	\$87	\$87
2010	54	945	0.98352	929	1,016
2011	55	956	0.96803	925	1,941
2012	56	967	0.95279	921	2,862
2013	57	978	0.93778	917	3,779
2014	58	989	0.92301	913	4,692
2015	59	1,000	0.90848	908	5,600
2016	60	1,012	0.89417	905	6,505
2017	61	1,024	0.88009	901	7,406
2018	62	1,036	0.86623	897	8,303
2019	63	1,048	0.85259	894	9,197
2020	64	1,060	0.83916	890	10,087
2021	65	1,072	0.82595	885	10,972
2022	66	1,084	0.81294	881	11,853
2023	67	1,096	0.80014	877	12,730
2024	68	1,109	0.78754	873	13,603
2025	69	1,122	0.77513	870	14,473
2026	70	1,135	0.76293	866	15,339
2027	71	1,148	0.75091	862	16,201
2028	72	1,161	0.73909	858	17,059
2029	73	1,174	0.72745	854	17,913
2030	74	1,188	0.71599	851	18,764
2031	75	1,202	0.70472	847	19,611
2032	76	1,216	0.69362	843	20,454
2033	77	1,230	0.68270	840	21,294
2034	78	1,244	0.67195	836	22,130
2035	79	1,258	0.66136	832	22,962
2036	80	1,272	0.65095	828	23,790
2037	81	1,287	0.64070	825	24,615
2038	82	1,302	0.63061	821	25,436
2039	83	938	0.62350	585	\$26,021
BRENDA CAMPBELL				\$26,021	

Table 4

PRESENT VALUE OF NET TIME SPENT ON SITUATION
2006 - 2039

YEAR	AGE	VALUE OF TIME	CUMULATE
****	***	*****	*****
2006	50	\$1,708	\$1,708
2007	51	15,028	16,736
2008	52	3,110	19,846
2009	53	1,868	21,714
2010	54	929	22,643
2011	55	925	23,568
2012	56	921	24,489
2013	57	917	25,406
2014	58	913	26,319
2015	59	908	27,227
2016	60	905	28,132
2017	61	901	29,033
2018	62	897	29,930
2019	63	894	30,824
2020	64	890	31,714
2021	65	885	32,599
2022	66	881	33,480
2023	67	877	34,357
2024	68	873	35,230
2025	69	870	36,100
2026	70	866	36,966
2027	71	862	37,828
2028	72	858	38,686
2029	73	854	39,540
2030	74	851	40,391
2031	75	847	41,238
2032	76	843	42,081
2033	77	840	42,921
2034	78	836	43,757
2035	79	832	44,589
2036	80	828	45,417
2037	81	825	46,242
2038	82	821	47,063
2039	83	585	\$47,648
CAMPBELL		\$47,648	

Table 5

LOSS OF PAST RVL OF BRENDA (LOWER)
2006 - 2009

YEAR	AGE	RVL	CUMULATE
****	***	*****	*****
2006	50	\$10,403	\$10,403
2007	51	94,243	104,646
2008	52	57,968	162,614
2009	53	61,755	\$224,369
CAMPBELL		\$224,369	

Table 6

PRESENT VALUE OF FUTURE RVL OF BRENDA (LOWER)
2009 - 2039

YEAR	AGE	RVL	DISCOUNT FACTOR	PRESENT VALUE	CUMULATE
****	***	*****	*****	*****	*****
2009	53	\$3,017	0.99926	\$3,015	\$3,015
2010	54	32,386	0.98352	31,852	34,867
2011	55	32,386	0.96803	31,351	66,218
2012	56	32,386	0.95279	30,857	97,075
2013	57	32,386	0.93778	30,371	127,446
2014	58	32,386	0.92301	29,893	157,339
2015	59	32,386	0.90848	29,422	186,761
2016	60	32,386	0.89417	28,959	215,720
2017	61	32,386	0.88009	28,503	244,223
2018	62	32,386	0.86623	28,054	272,277
2019	63	32,386	0.85259	27,612	299,889
2020	64	32,386	0.83916	27,177	327,066
2021	65	32,386	0.82595	26,749	353,815
2022	66	32,386	0.81294	26,328	380,143
2023	67	32,386	0.80014	25,913	406,056
2024	68	32,386	0.78754	25,505	431,561
2025	69	32,386	0.77513	25,103	456,664
2026	70	32,386	0.76293	24,708	481,372
2027	71	32,386	0.75091	24,319	505,691
2028	72	32,386	0.73909	23,936	529,627
2029	73	32,386	0.72745	23,559	553,186
2030	74	32,386	0.71599	23,188	576,374
2031	75	32,386	0.70472	22,823	599,197
2032	76	32,386	0.69362	22,464	621,661
2033	77	32,386	0.68270	22,110	643,771
2034	78	32,386	0.67195	21,762	665,533
2035	79	32,386	0.66136	21,419	686,952
2036	80	32,386	0.65095	21,082	708,034
2037	81	32,386	0.64070	20,750	728,784
2038	82	32,386	0.63061	20,423	749,207
2039	83	23,069	0.62350	14,384	\$763,591
BRENDA CAMPBELL				\$763,591	

Table 7

PRESENT VALUE OF NET RVL OF BRENDA (LOWER)
2006 - 2039

YEAR	AGE	RVL	CUMULATE
****	***	*****	*****
2006	50	\$10,403	\$10,403
2007	51	94,243	104,646
2008	52	57,968	162,614
2009	53	64,770	227,384
2010	54	31,852	259,236
2011	55	31,351	290,587
2012	56	30,857	321,444
2013	57	30,371	351,815
2014	58	29,893	381,708
2015	59	29,422	411,130
2016	60	28,959	440,089
2017	61	28,503	468,592
2018	62	28,054	496,646
2019	63	27,612	524,258
2020	64	27,177	551,435
2021	65	26,749	578,184
2022	66	26,328	604,512
2023	67	25,913	630,425
2024	68	25,505	655,930
2025	69	25,103	681,033
2026	70	24,708	705,741
2027	71	24,319	730,060
2028	72	23,936	753,996
2029	73	23,559	777,555
2030	74	23,188	800,743
2031	75	22,823	823,566
2032	76	22,464	846,030
2033	77	22,110	868,140
2034	78	21,762	889,902
2035	79	21,419	911,321
2036	80	21,082	932,403
2037	81	20,750	953,153
2038	82	20,423	973,576
2039	83	14,384	\$987,960
CAMPBELL		\$987,960	

Table 8

LOSS OF PAST RVL OF BRENDA (UPPER)
2006 - 2009

YEAR	AGE	RVL	CUMULATE
****	***	*****	*****
2006	50	\$10,403	\$10,403
2007	51	94,243	104,646
2008	52	57,968	162,614
2009	53	61,755	\$224,369
CAMPBELL		\$224,369	

Table 9

PRESENT VALUE OF FUTURE RVL OF BRENDA (UPPER)
2009 - 2039

YEAR	AGE	RVL	DISCOUNT FACTOR	PRESENT VALUE	CUMULATE
****	***	*****	*****	*****	*****
2009	53	\$3,017	0.99926	\$3,015	\$3,015
2010	54	64,772	0.98352	63,705	66,720
2011	55	64,772	0.96803	62,701	129,421
2012	56	64,772	0.95279	61,714	191,135
2013	57	64,772	0.93778	60,742	251,877
2014	58	64,772	0.92301	59,785	311,662
2015	59	64,772	0.90848	58,844	370,506
2016	60	64,772	0.89417	57,917	428,423
2017	61	64,772	0.88009	57,005	485,428
2018	62	64,772	0.86623	56,107	541,535
2019	63	64,772	0.85259	55,224	596,759
2020	64	64,772	0.83916	54,354	651,113
2021	65	64,772	0.82595	53,498	704,611
2022	66	64,772	0.81294	52,656	757,267
2023	67	64,772	0.80014	51,827	809,094
2024	68	64,772	0.78754	51,011	860,105
2025	69	64,772	0.77513	50,207	910,312
2026	70	64,772	0.76293	49,417	959,729
2027	71	64,772	0.75091	48,638	1,008,367
2028	72	64,772	0.73909	47,872	1,056,239
2029	73	64,772	0.72745	47,118	1,103,357
2030	74	64,772	0.71599	46,376	1,149,733
2031	75	64,772	0.70472	45,646	1,195,379
2032	76	64,772	0.69362	44,927	1,240,306
2033	77	64,772	0.68270	44,220	1,284,526
2034	78	64,772	0.67195	43,524	1,328,050
2035	79	64,772	0.66136	42,838	1,370,888
2036	80	64,772	0.65095	42,163	1,413,051
2037	81	64,772	0.64070	41,499	1,454,550
2038	82	64,772	0.63061	40,846	1,495,396
2039	83	46,139	0.62350	28,768	\$1,524,164

BRENDA CAMPBELL

\$1,524,164

Table 10

PRESENT VALUE OF NET RVL OF BRENDA (UPPER)
2006 - 2039

YEAR	AGE	RVL	CUMULATE
****	***	*****	*****
2006	50	\$10,403	\$10,403
2007	51	94,243	104,646
2008	52	57,968	162,614
2009	53	64,770	227,384
2010	54	63,705	291,089
2011	55	62,701	353,790
2012	56	61,714	415,504
2013	57	60,742	476,246
2014	58	59,785	536,031
2015	59	58,844	594,875
2016	60	57,917	652,792
2017	61	57,005	709,797
2018	62	56,107	765,904
2019	63	55,224	821,128
2020	64	54,354	875,482
2021	65	53,498	928,980
2022	66	52,656	981,636
2023	67	51,827	1,033,463
2024	68	51,011	1,084,474
2025	69	50,207	1,134,681
2026	70	49,417	1,184,098
2027	71	48,638	1,232,736
2028	72	47,872	1,280,608
2029	73	47,118	1,327,726
2030	74	46,376	1,374,102
2031	75	45,646	1,419,748
2032	76	44,927	1,464,675
2033	77	44,220	1,508,895
2034	78	43,524	1,552,419
2035	79	42,838	1,595,257
2036	80	42,163	1,637,420
2037	81	41,499	1,678,919
2038	82	40,846	1,719,765
2039	83	28,768	\$1,748,533
CAMPBELL		\$1,748,533	